DOCUMENT RESUME

ED 196 799 SO 013 088

AUTHOR Vockell, Edward
TITLE Measuring Attitudes Toward Animal Life: A Technical Report to American Humane.
PUB DATE Jul 79
NOTE 68p.: Appendix A may not reproduce clearly from EDRS in microfiche due to poor reproducibility of original document.

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Altruism; *Animals; *Attitude Measures; *Childhood Attitudes; Elementary Secondary Education; Measurement Objectives; *Measurement Techniques; Tables (Data); Testing; Test Reliability; Test Results; Test Validity

ABSTRACT

This paper evaluates two measurement instruments with regard to their ability to measure children's and young people's attitudes toward animals. The instruments are the Fireman Test (in which children are asked to identify those few animals and/or material possessions which a fireman should try to save during a fire) and the Good Ideas and Bad Ideas Test (in which children are directed to respond to multiple choice questions involving feelings about whether certain actions involving animals and inanimate objects are good or bad). Tests based on these two measurement instruments were administered to over 2,000 pupils in grades three through six and grade nine. Information is presented on test development, validity, reliability, differences to be expected among responses for different grade levels, actual differences at different grade levels, intercorrelations of humane attitude scores among students taking both tests, and variations in student scores according to a number of variables, including reading level, sociceconomic status, boy or girl scouting experience, English placement, and knowledge about and experience with animals. Findings from comparison of test scores with a variety of controls for these and other variables indicated that the Fireman Test and the Good and Bad Ideas Test provide more valid and reliable information about students' attitudes toward animals than has been available to date for use by researchers in humane education. The conclusion is that humane educators will be able to develop and implement educational programs which are more effective in solving problems related to animal life if they use these tests. Copies of the measurement instruments and 22 tables of test-related data are included in the appendices. (IB)

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MEASURING ATTITUDES TOWARD ANIMAL LIFE: A TECHNICAL REPORT TO AMERICAN HUMANE

by

Edward Vockell, Ph.D.

H.E.E.D. Inc.

(Submitted to American Humane, July, 1979)

MEASURING ATTITUDES TOWARD ANIMAL LIFE

The current reawakening of interest in environmental and ecological issues has rekindled interest in humane education and in developing attitudes toward animal life. In spite of this renewed interest, Vockell and Hodal (1978) have reported that there has never been published an evaluative study of a humane education program which demonstrated that any particular strategy for developing humane attitudes works better than any other strategy. A major reason for this surprising lack of research is that there is no test of attitudes toward animal life which is currently available for potential researchers to use.

The only instrument to measure attitudes toward animal life which has ever been reported in the literature is that of Sanders (1974). The Sanders instrument states forty problems with regard to animal life which he selected as important issues. It states these problems in declarative sentences (Appendix A) and simply asks the respondent to state how concerned he is about each of these problems. Sanders has reported that this instrument possesses a high degree of reliability. He administered this instrument to a large group of junior high and high school students and discovered that there are stable,

identifiable animal-related attitudes among such students and that these attitudes seem to deteriorate as time passes. For purposes of research and program evaluation, however, the Sanders instrument has some severe limitations. The first limitation is that it requires a reasonably high degree of reading ability and is, therefore, probably useful only for measuring attitudes of high school students who are reasonably good readers. A more severe limitation, however, is that the instrument appears to be severely susceptible to a response bias. In other words, each of the statements is worded in such a way that the obviously "correct" answer is to state that one is deeply concerned about each of the issues. Therefore, a person who is not really concerned about an issue but who wants to answer in a socially desirable direction, would simply give the highest response. Such questionnaires are referred to by researchers (such as Webb, et al, 1969) as <u>obtrusive</u> forms of measurement. In an obtrusive form of measurement, the respondent is likely to "react" to the measuring instrument itself. Consequently higher responses in, say, an experimental group than in a control group could indicate greater susceptibility to the instrument itself rather than an alteration in behavior which would result from the experimental treatment. Obtrusive forms of measurement, therefore, are not particularly useful in attitudinal research unless supplemented by other nonobtrusive forms of measurement. In summary, the Sanders instrument appears to be a useful device for certain

types of survey research and deserves further use and development in this regard. However, it would appear that other less obtrusive measuring instruments are needed for purposes of experimental research and program evaluation.

The present study reports on the development of two measur- instruments: The Fireman Test (which exists in variant forms) and the Good Ideas and Bad Ideas Test. In addition, a third test (the Problems Test) will be discussed as a validation technique in the present study: and this test itself can also be developed into a test in its own right in the immediate future. None of these tests, in their present forms, can be used as diagnostic instruments (as can an IQ or an achievement test). They were rather designed for research purposes to ascertain whether or not changes have occurred as a result of some planned intervention. This is not a shortcoming of the tests, but is rather a limitation which should be observed in their interpretation.

The Fireman Tests.

In Johnny and the Fireman (Appendix B), the children who are responding to the test are told to imagine that Johnny is a person about their own age whose house is burning down. Johnny and his entire family have escaped from the house and the fireman comes up to Johnny and says to him "The whole house is a total loss. We can save only three things. Which three things would you like me to save?" The children are then presented with a

list of ten things. They are told to list their first choice, their second choice, and their third choice and are finally asked to give reasons for each of their choices. The list of choices consists of ten items which are often accompained by information about how much they cost or how new they are. Three of the items on the list are animals, (a dog, a cat, and a gerbil) and the rest of the items are non-animal objects such as car keys, checkbook, television set, etc. The rationale behind the test is that a person who has a favorable attitude towards animal life will save the animals first rather than the objects. The Billy and the Fireman Test is quite similar (but not identical) to the Johnny and the Fireman Test. In addition, we have developed a Janet and the Fireman Test which is identical to Johnny and the Fireman Test with the exception that the name Janet is substituted for the name Johnny throughout and, of course, the word "girl" is substituted for the word "boy."

To ascertain the reliability and validity of the Fireman Tests, they were administered to a large number of children in schools throughout the northwestern Indiana and Chicago metropolitan area. The results of these reliability administrations are summarized in Tables 1 and 2. Table 1 indicates that the Fireman Test possesses a high degree of test-retest reliability. Likewise, Table 2 indicates that the Fireman Test possesses a high degree of alternate-forms reliability. These data would seem to indicate that the tests are measuring some stable char-

acteristic. Moreover, Table 2 suggests that it is probably safe to administer one of the Fireman Tests as a pretest before treatment and the other as a post-test after the treatment. However, some caution is necessary in this regard since the Billy scores are normally higher than the Johnny scores attained by the same group of respondents.

[Insert Tables 1 and 2 here]

During these reliability and validity administrations of the tests, three different scoring procedures were used. The first scoring procedure consisted of simply giving the child one point for each animal he or she chose. Thus, the range of scores on this method could range from zero choices to three choices, giving a range of scores of zero to three. The second method consisted of giving a weighted score of three points if the student chose an animal for first choice, two points if he or she chose an animal for second choice, and one point for choosing an animal for third choice. Thus, a student who chose all three animals would receive three points plus two points plus one point, which would be six points. A student who chose no animals would receive a score of zero points; and a student who chose, say, an animal for second choice and no other animals would receive a score of two points. The third method was another weighted method, which consisted of giving the student five

points for choosing an animal for first choice, three for a second choice animal and one for choosing an animal for first choice, three for a second choice animal and one for choosing an animal for third choice. With this method a respondent who chose all three animals would receive five plus three plus one equals nine points; a person who chose no animals would receive a score of zero points. In the course of the reliability and validity studies, it became obvious that the three methods would lead to identical conclusions. (The median correlation between the three was .97). Therefore, it was decided to employ only the unweighted method and disregard the weighted methods. Therefore, throughout this report, only the first method (range zero to three points) is reported on all the Fireman Tests.

With regard to the validity of the Fireman Tests, three hypotheses were stated. First, it was expected that if the Fireman Tests were valid, they would demonstrate a very low correlation with variables which are not appropriately defined as being part of a humane attitude. Therefore, a low (near zero) relationship was expected with regard to such variables as IQ, reading and math achievement, sex, and race. Secondly, it was expected that the tests would correlate high with other measures of attitudes toward animal life. And, finally, it was expected that groups of students who could legitimately be identified as people who "should" have favorable attitudes would score higher on the test than those who "should" have poor attitudes.

Tables 3 and 4 present the data which examines the first of these validity-related hypotheses. These results show the Fireman Tests were not significantly related to any of these variables. Although further validity research of this type is necessary, it is safe to tentatively conclude that the Fireman Tests appear to be measuring a stable characteristic, and that this stable characteristic is not some irrelevant variable such as IQ or reading ability.

Insert Tables 3 and 4 about here

To test the second validity-related hypothesis, it is necessary to compare the scores on the Fireman Test to other tests which measure humane attitudes. Since there are no other tests of humane attitudes for elementary school students, testing this hypothesis necessitates correlating this test with the other test being developed in the present study. Therefore, discussion of this hypothesis will be delayed until later in this report, after the Good Ideas and Bad Ideas and Problems Tests have been introduced.

The third hypothesis is tested by (1) identifying major groups which are theoretically supposed to differ significantly in humane attitudes and (2) comparing the scores of respondents from these groups on the Fireman Tests. Since it seems to be widely assumed among humane groups that attitudes in the Boston, Massachusetts, area are superior to those in the Gary-Hammond-East Chicago, Indiana, area, one way to validate the test is to compare the performance on the test of respondents from these two separate geographic areas. Such data have been collected and the results are reported later in this report in conjuction with the Good Ideas and Bad Ideas results.

It is also useful at this point to discuss face validity or content validity of the Fireman Test. Intuitively, it seems obvious that if a person possesses a favorable attitude towards animal life, he or she would decide to save that animal from the fire before saving an inanimate object. After all, objects are replaceable, and they don't suffer while they are being destroyed.

Obviously, this is not the case with an animal. Once dead, it is not capable of being resurrected or personally replaced in the same manner as an object. In addition, an animal actually undergoes pain while being consumed in a fire, while an object does not undergo such pain.

The two most serious threats to the validity of the Fireman Test are: (1) That a person who actually has a negative attitude towards animal life will nonetheless save animals from the fire, perhaps because he values them as objects: and (2) That a person who has a favorable attitude towards animal life might in fact fail to save the animals and save the objects instead, perhaps on the assumption that the animals can find their own way out of the fire, whereas the objects would have to be carried out. The most satisfactory way to examine these threats to the validity of the Fireman Test is to look at the reasons the respondents gave for saving whatever objects they chose to save. In most of the cases, when a student saved an inanimate object from the fire, the reason given was that he or she "liked it" or "because it cost a lot of money." In a relatively low number of cases, the reason given for saving an object (such as the child's mother's coat) was because "his mother would hate to lose it." On the other hand, in most of the cases in which a respondent saved an animal from the fire, the reason given was "because it's alive" or "because it deserves to live." In a smaller number of cases, students saved an animal because "they liked it." Interestingly, <u>in almost every case</u> where a student chose to save <u>all three</u> animals, then the reason given was because "they're alive" or "they deserve to live." This anecdotal information would seem to indicate that students who valued animal life based their decision to save animals on the value they gave animal life; whereas those who did not possess such a favorable attitude toward animal life neglected to save the animals due to this absence of such an attitude.

The Good Ideas and Bad Ideas Test

The Good Ideas and Bad Ideas Test (Appendix C) is a somewhat more obtrusive form of measurement than the Fireman Test. The student responding to this questionnaire is presented with ~~eigh~~ten situations. One of these situations (the first one) is completely irrelevant to the measurement of humane attitudes and is mrely inserted to put the student/respondent into the mental framework of wanting to respond to the rest of the questions. In addition, the fourth question is referred to as a "social response scale" (or "lie scale"). This question is designed to ascertain whether or not the student is likely to be giving merely socially desirable answers rather than actually responding as his feelings indicate that he should respnnd. Six other items deal with attitudes toward inanimate objects. Finally, the other ten items deal with attitudes toward animal life. In the attitudinal items, the respondent is presented with a situation such as, "Some boys were going with Johnny and they suggest that he come along while they go to throw rocks at street lights." The respondent is then asked to decide whether or not this is an excellent idea, a good idea, a bad idea, or a terrible idea. Finally he is asked what his reaction should be. This reaction could range from going along with them all the way down to going in and telling his father and having his father go out and stop this activity. Three of the situations (six questions) refer to inanimate objects, and

five of those situations (ten questions) refer to animal-related incidents. The rationale behind this test is that a person who has a favorable attitude toward animal life will be more resistant to ideas which involve harming animal life and more ready to take actions which would minimize such harm to animal life than would a person lacking a favorable attitude.

It seems obvious that the student responding to such a questionnaire could know "good kids don't do that" and, therefore, respond in a socially desirable manner rather than indicating his real attitudes when responding to this questionnaire. Two steps have been taken to overcome this difficulty. First, the social desirability scale has been included to indicate the likelihood that a person will respond in a purely socially desirable manner. Secondly, the questions related to attitudes toward objects can serve as a control for such social desirability. In other words, if a person is responding out of social desirability alone, it is likely that such a social desirability response bias would affect both her responses on the questions related to objects (referred to as the O-Scale) and her responses on those questions related to animals (referred to as the A-Scale). Therefore, if the test can be demonstrated to reliably measure responses with regard to objects and animals, it can be assumed that the social desirability response bias is operating equally on the A-Scale and the O-Scale. Thus, it might be safe to conclude that if two groups differ only on the A-Scale but not on the O-Scale, they actually differ in their

attitude toward animal life, rather than merely in their tendency to give socially desirable responses.

The Good Ideas and Bad Ideas Test yielded several different scores. First, it yielded a "L-Scale" score. This score ranged from one to four and was merely the result of the students' response to question four (the social desirability question). Secondly, each student received an "O-Scale" score. This score was obtained by adding together all of the student's responses to questions relating to inanimate objects and dividing by the number of such questions answered. Third, each student received an "A-Scale" score, which was derived by adding together all of his responses to the animal related questions and dividing by the number of these questions he responded to. Finally, an "H-Scale" score was computed for each student. This score was calculated by subtracting the O-Scale from the A-Scale. The H-Scale, therefore, was an indication of the average difference between the student's rating of the animal-related questions and the object-related questions. The H-Scale was based on the rationale that a student who had a favorable attitude towards animals would be more likely to resist suggestions of giving harm to animals and more likely to be opposed to such suggestions than he or she would be to resist and oppose suggestions relating to harming objects. In addition, several modifications of the H-Scale were calculated based on correction factors derived from the L-Scale. These modified H-Scale scores

were used only during the experimental stages and since they were found to be ineffective correction procedures, they were eventually discarded, and hence are not discussed further in this paper.

To establish the reliability of the Good Ideas and Bad Ideas Test, two types of reliability coefficients were calculated. (See Table 5.) First, a test-retest reliability coefficient was calculated. The test was administered to two classes of thirty students apiece with a time interval of two weeks between the administrations. The reliability coefficients were .85 for the L-Scale, .95 for the Animal-Scale, .93 for the Object-Scale, and .87 for the H-Scale. These correlation coefficients indicate a high degree of test-retest reliability. To further examine the reliability of the Good Ideas and Bad Ideas Test, a split-half reliability coefficient was computed separately for the A-Scale, for the O-Scale, and for the H-Scale. These split half coefficients were computed by taking each pair of items on each situation and randomly assigning one of the items to either Half A or Half B of the scale to which it pertained. The correlation coefficients thus derived are presented in Table 5. These correlation coefficients are corrected by the Spearman-Brown correction formula for split-half reliability. These results indicate that the A-Scale and the O-Scale display a highly satisfactory degree of internal consistency reliability. The split-half coefficient for the H-Scale, however, is considerably lower. Although such a low

reliability coefficient would disqualify a test for use as a diagnostic test (e.g., to measure IQ), this coefficient in itself would not invalidate the H-Scale for research usage. Nunnully (1969) advises that coefficients in this range are quite acceptable for research usage.

[Insert Table 5 here]

(Note: One technical reason for the low internal consistency of the H-Scale is that it was obtained by subtracting the O-Scale, which is less than perfectly reliable, from the A-Scale, which is also less than perfectly reliable. The H-Scale thus combines and amplifies the unreliability in the two scales of which it is comprised.)

To ascertain the validity of the Good Ideas and Bad Ideas Test, the same procedures were followed as for the Fireman Tests. First, the Good Ideas and Bad Ideas scores were compared to scores on variables which were assumed to be irrelevant to humane attitudes. The results of these comparisons are presented in Table 6. These results suggest that this test is probably not measuring some irrelevant attitude or trait. The A-Scale and H-Scale were also found to be unrelated to the sex of the respondent.

[Insert Table 6 here]

In addition, the Good Ideas and Bad Ideas scores were compared to other measurements of humane attitudes. These results will be discussed below, together with the results of the Fireman Tests and the Problems Test. Finally, the same strategy of comparing the scores of a known "humane" group to a known "less humane" group was incorporated by administering the Good Ideas and Bad Ideas Test to a group of students in the Hammond area and to another group at the same level in the Boston area. These were the same groups used in the validation of the Fireman tests.

Table 7 presents the results of the Boston-area and Hammond area students on both the Fireman tests and the Good Ideas and Bad Ideas Test. These results indicate that the scores of the Boston-area students were significantly higher than those of the Hammond-area students on all the tests. Note that the least difference in scores between the two groups occurred on the A-Scale of the Good Ideas and Bad Ideas Test. This is the test which is most susceptible to social-desirability response bias, and probably does not measure "real" attitudes as accurately as the other three scores. On the H-Scale and on both Fireman Tests, the level of statistical significance was much greater. This finding that the two groups differed slighly in the expected direction on the test most susceptible to social-desirability response bias and much more significantly in the expected direction on the less obtrusive tests provides support for the validity of the tests. The repetition of this process of identifying and comparing theoretically different groups will provide important additional validity data.

Insert Table 7 about here

The Problems Test

The Problems Test was developed as a validation procedure for the Fireman Tests and the Good Ideas and Bad Ideas Test. It appears, however, that it can also become a useful measuring technique in its own right. Various formats of this test will be developed and tested in the near future. It will be described

only briefly here.

The Problems Test (Appendix D) presents the respondent with a list of nine problems. The respondent is then asked to rank these in order of importance. One of the problems states that "Animals suffer needlessly because people mistreat them." A person's score on the Problems Test is the rank which he/she assigns to this animal-related problem. Thus, a person who ranks this problem first would receive a score of "1," which is the highest possible score. A person who ranked it lowest would receive a score of "9." In interpreting the results of the Problems Test, it is important to keep in mind that a "low" score (near 1) represents a favorable attitude.

Future research will be undertaken to establish the reliability and validity of the Problems Test. At present, it has been used solely as a validation instrument for the Fireman Tests and for the Good Ideas and Bad Ideas Test.

The Intercorrelations of the Humane Attitude Scores

Table 8 lists the several intercorrelations which are currently available. A high correlation between two scores indicates that respondents answered similarly on both tests. Note that because a "low" score represents a favorable attitude on the Problems Test, a high negative correlation indicates a high degree of validity.

Insert Table 8 here

At first glance, many of the correlations between the Fireman Tests and the other tests are disappointingly low and might seem to indicate a lack of validity. One reason for these low correlation coefficients arises from what statisticians refer to as "restriction of range." Since the range on the Fireman Tests is only 0 - 3 (whereas, the range on the Good Ideas and Bad Ideas Test is 20 - 90), it is mathematically hard

to obtain a high correlation coefficient. A better way to examine the validity of the Fireman Tests, therefore, is to break the respondents on the Fireman Tests down into four groups and determine whether those who (a) chose all three animals scored higher on the other tests than those who (b) chose two animals, whether those who chose two scored higher than those who (c) chose one animal, and whether those who chose one scored higher than those who (d) chose no animals. Such an analysis is presented in Tables 9 and 10.

[Insert Tables 9 and 10 here]

Table 9 shows a surprising result. The students who chose all three animals scored higher than everyone else on the A-Scale. Those who chose two animals came next. The surprising part is that those who chose no animals actually scored a little higher than those who chose one animal. A similar (but not identical) nonlinear pattern can be seen in Table 12. (Note that such nonlinearity would be responsible for reducing the Pearson correlation coefficients in Table 8.) A possible explanation for this surprising nonlinearity will be discussed below. Overall, however, these results reveal significant differences which support the validity of the Fireman Tests.

Table 9 (above) also provides some support for the validity of the A-Scale of the Good Ideas and Bad Ideas Test, since it shows that those who scored high on the one test also scored

high on the other. A further test of the validity of the A-Scale is provided by taking each of the individual animals on the Fireman Tests and comparing the scores of those who chose to save that animal with the scores of those who did not choose to save it. The results of this comparison are presented in Table 11. Overall, these results indicate a high degree of validity for the A-Scale of the Good Ideas and Bad Ideas Test.

[Insert Table 11 here]

An analysis of the validity of the H-Scale of the Good Ideas and Bad Ideas Test indicates that its validity is not nearly as strongly supported as that of the other tests so far discussed. Table 8 indicates that it sometimes correlates positively with the Fireman Tests, but often the correlation is near zero or even negative. The high correlation which frequently occurs between the A-Scale and the H-Scale is only to be suspected, since the latter is derived from the former. Table 9 also provides little or no support for the validity of the H-Scale. The significant differences in favor of those choosing more animals do not occur as frequently or as emphatically as they did for the A-Scale. In addition, Table 12 presents an analysis of the H-Scale similar to that previously presented for the A-Scale. Again, the support for the H-Scale is not nearly as emphatic or unambiguous as for the A-Scale.

[Insert Table 12 here]

A further check of the validity of the Fireman Tests is provided in Tables 13 and 14. These tables compare the rankings on the Problems Tests of those who chose to save specific animals with those who chose not to save those animals. This table shows that there was a strong tendency for those who saved specific animals and who saved a larger number of animals to give rankings of greater importance to the "animal" problem on this test. These data support the validity of the Fireman Tests.

[Insert Tables 13 and 14 here]

Summary of the Reliability and Validity of the Tests

In summary, the Fireman Tests have been shown to be quite reliable. They also appear to possess a high degree of validity. They have the advantages of being free from social-response biases, of being easy to administer, and of being easy to score. Although additional work should be done to further establish their validity, the Fireman Tests appear to be useful devices for research and program evaluations.

The Good Ideas and Bad Ideas Test has two major scales. The A-Scale possesses a high degree of reliability. It also appears to possess a reasonable degree of validity. However, it appears to be quite susceptible to a social-desirability response bias, which makes it less desirable than the Fireman Tests in situations where the respondent is likely to "fake"

good answers in order to please or impress the tester. The H-Scale was designed to circumvent this social-desirability response bias. However, the H-Scale possesses only a moderate degree of reliability, and its validity is quite doubtful. It needs to be further developed or entirely restructured.

In its present form, the A-Scale of the Good Ideas and Bad Ideas is useful for research. However, an alternative to the H-Scale must be found to circumvent the social-desirability response bias where this threat to validity is likely to arise. A good strategy is probably to calculate both the A-Scale and the O-Scale (which has been briefly described but not discussed in detail in this report). In experimental research, if a treated and an untreated group differ on the A-Scale but not on the O-Scale, this would provide evidence that improvements were not related to the social-desirability response bias. (A similar, but theoretically more complex solution would be to use analysis of covariance, with the A-Scale as the dependent variable and the O-Scale as the covariate.)

Finally, the Problems Test deserves further development. It appears to be a relatively direct technique (asking a respondent to indicate how important various problems are), but it is still free of social response bias (after all, any of the problems are socially desirable things to get upset about). The present format of the Problems Test was put together quickly, solely with the intention of using it for the validation of other tests. A more careful selection of problems would probably increase its

validity. In addition, the ability of young respondents to respond would be increased if the problems were printed on gummed labels, which the respondent could easily shift around before gluing them to the answer sheet. The Problems Test has the additional advantage of being able to be made easily available in several forms for pretesting, posttesting, and continuously monitoring progress throughout a humane education program.

Responses to the Tests at Different Grade Levels

It is possible that the tests could be more or less effective at different grade levels. Tables 15 to 22 examine in considerable detail the response patterns which emerged at various grade levels. Tables 15 and 16 summarize the responses of students in grades three through six to the Johnny and Billy tests. (These data are based on the Hammond Study.) Response patterns on these Fireman Tests do not seem to shift substantially as children progress through these grades.

[Insert Tables 15 and 16 here]

Table 17, however, shows that there does appear to be a shifting pattern in responses to the A-Scale of the Good Ideas and Bad Ideas Test as children progress from grades three through six. Scores increase each year from grades three through five and then drop off suddenly in grade six. (This conflicting pattern of a drop-off on the A-Scale but not on the Fireman

Tests can probably be explained in terms of the A-Scale's greater susceptibility to social response bias.)

[Insert Table 17 here]

Table 18 examines the response patterns on the H-Scale of the Good Ideas and Bad Ideas Test. H-Scores increase as respondents progress from grade three to grade six. Likewise, the split-half reliability starts low and becomes higher as grade level increases.

[Insert Table 18 here]

Tables 19 and 20 are similar to Table 11, which was discussed previously. These tables provide validity data on the A-Scale on a grade-by-grade basis. The validity of the A-Scale appears to increase as the respondents grow older. This is a tentative conclusion and would have to be confirmed by future research.

[Insert Tables 19 and 20 here]

Tables 21 and 22 are similar to Table 14. They examine the validity of the H-Scale on a grade-by-grade basis. These tables suggest that the H-Scale does <u>not</u> improve with regard to

validity when it is administered to older students.

[Insert Tables 21 and 22 here]

Conclusion

Once valid tests have become available, it becomes possible to examine a myriad of questions which were previously the object of mere conjecture rather than of empirical verification. Does learning to love animals cause people to treat their fellow human beings better as well? Do pet owners have more favorable attitudes than non-pet-owners? Can humane attitudes actually be created by short-term intervention programs in the schools? Or should we spend our time and money on some strategy other than attitude-change? These and other questions can be investigated with the tests described in this report.

Too many humane educators and animal lovers have merely assumed they have been successful. They have concluded that because they have been excited, have spent money, and have talked a lot, they have been "planting seeds." Such assumptions are wasteful and probably harmful. It is our hope that the tests discussed in this report will enable humane educators to take a more constructive and effective approach to solving problems related to animal life.

TABLES

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TABLE 1. Test-Retest Reliability of the Fireman Tests.

Test	Grade Level of Respondents	Time Interval	Correlation
Johnny	5th (n=20)	1 week	.63
Johnny	4th (n=24)	1 week	.75
Johnny	6th (n=25)	2 weeks	.70
Billy	5th (n=20)	1 week	.69
Billy	4th (n=23)	1 week	.70

TABLE 2. Alternate Forms Reliability of the Fireman Tests.

Tests	Grade Level of Respondents	Time Interval	Correlation
Billy/Johnny	3rd (n=23)	Same day	.59
Billy/Johnny	4th (n=47)	1 week	.70
Johnny/Billy	4th (n=26)	2 days	.64
Billy/Johnny	3rd (n=35)	1 day	.73
Billy/Johnny	4th (n=24)	4 days	.55
Johnny/Billy	3rd (n=24)	1 day	.48
Johnny/Billy	K (n=23)	1 day	.60
Billy/Johnny	5th (n=65)	1 day	.71
Billy/Janet	5th (n=65)	1 day	.73
Johnny/Billy	4th (n=28)	1 week	.37

TABLE 3. Correlations of Fireman Tests with Variables Theoretically Independent of Humane Attitudes.

Fireman Test	Other Variable	Grade Level	Correlation
Billy	IQ	4th (n=24)	.03
Johnny	IQ	4th (n=24)	-.18
Johnny	IQ	4th (n=26)	.17
Billy	IQ	4th (n=26)	.14
Janet	IQ	5th (n=33)	.08
Billy	Sociogram	5th (n=25)	-.08
Johnny	Sociogram	6th (n=30)	.26
Janet	Sociogram	6th (n=30)	.11
Johnny	Sociogram	6th (n=30)	.03
Janet	Sociogram	6th (n=30)	-.11
Billy	Reading	6th (n=23)	-.06
Billy	Math	6th (n=23)	-.01
Johnny	Reading	6th (n=23)	.03
Johnny	Math	6th (n=23)	.09

TABLE 4. Comparisons of Mean Scores of Groups Based on Variables Theoretically Unrelated to Humane Attitudes

SEX

STUDY 1.

Grade 3

BILLY	Boys	1.35	(n=14)
	Girls	1.50	(n=10)
	F	0.09	
	(sig)	(.77)	
JOHNNY	Boys	1.29	(n=14)
	Girls	1.50	(n=10)
	F	0.17	
	(sig)	(.69)	

STUDY 2.

Grade 4

BILLY	Boys	1.50	(n=14)
	Girls	1.63	(n= 8)
	F	0.04	
	(sig)	(.84)	
JOHNNY	Boys	1.21	(n=14)
	Girls	1.38	(n= 8)
	F	0.09	
	(sig)	(.78)	

STUDY 3.

Grade 4

BILLY	Boys	2.21	(n=24)
	Girls	1.26	(n=23)
	F	7.86	
	(sig)	(.008)	

(continued...)

TABLE 4. continued

SEX

STUDY 3.

Grade 4

JOHNNY	Boys	1.87	(n=24)
	Girls	1.04	(n=23)
	F	5.57	
	(sig)	(.02)	

READING GROUP

STUDY 4.

Grade 4

BILLY	High	1.39	(n=23)
	Low	2.08	(n=24)
	F	3.88	
	(sig)	(.06)	
JOHNNY	High	1.30	(n=23)
	Low	1.63	(n=24)
	F	0.75	
	(sig)	(.40)	

SCOUTING

STUDY 6.

Grade 4

BILLY	Non-scouts	1.72	(n=36)
	Scouts	1.82	(n=11)
	F	0.05	
	(sig)	(.83)	
JOHNNY	Non-scouts	1.30	(n=36)
	Scouts	2.00	(n=11)
	F	2.63	
	(sig)	(.12)	

(continued...)

TABLE 4. continued

READING GROUP

STUDY 5.

Grade 4

A-Scale	High	1.59	(n= 9)
	Low	1.29	(n=16)
	F	6.38	
	(sig)	(.02)	

ENGLISH PLACEMENT

STUDY 7.

Grade 9

BILLY	Adv.	1.46	(n=24)
	Reg.	1.81	(n=26)
	F	1.31	
	(sig)	(.26)	

TABLE 5. Reliability Estimates for Good Ideas and Bad Ideas.

Test-Retest (9th Graders, 2 Week Interval) (n=60)

L - Scale	.85
A - Scale	.95
O - Scale	.93
H - Scale	.87

Split-Half (3rd-6th Graders) (n=1766)

A - Scale	.73
O - Scale	.73
H - Scale	.43

TABLE 6. Correlation of Good Ideas and Bad Ideas Scores with Variables Theoretically Unrelated to Humane Attitudes

Scale	Other Variable	Grade Level	Correlation
A	Sociogram	5th (n=25)	-.22
A	Sociogram	5th (n=25)	-.23
H	Sociogram	5th (n=25)	-.09
H	Sociogram	5th (n=25)	-.08
A	IQ	4th (n=33)	.11
H	IQ	4th (n=33)	.35
A	Sociogram	5th (n=25)	-.18
H	Sociogram	5th (n=25)	-.11
A	IQ	3rd (n=22)	.02
H	IQ	3rd (n=22)	.09
A	IQ	3rd (n=18)	.14
H	IQ	3rd (n=18)	.18

TABLE 7. Comparison of Mean Scores of Hammond-area and Boston-area Students on the Fireman Tests and the Good Ideas and Bad Ideas Test

	Hammond-area Students	Boston-area Students	F-Ratio	(sig)
Johnny	1.16 (n=1204)	2.06 (n-177)	94.56	(.0001)
Billy	1.63 (n=1349)	2.19 (N=135)	27.78	(.0001)
A-Scale	76.50 (n=1985)	78.02 (n=152)	4.92	(.03)
H-Scale	7.33 (n=1985)	11.73 (n=152)	36.11	(.0001)

TABLE 8. Intercorrelations Among Various Measurements of Humane Attitudes

24 5th-graders

	Johnny	Janet	A	H	Problems
Johnny	1.00				
Janet	.91	1.00			
A	- .07	.01	1.00		
H	.01	.02	.10	1.00	
Problems	- .25	- .20	- .40	- .16	1.00

33 4th-graders

	Janet	A	H	Problems
Janet	1.00			
A	- .20	1.00		
H	.31	.13	1.00	
Problems	- .18	- .45	- .24	1.00

43 6th-graders

	Billy	A	H	Problems
Billy	1.00			
A	.27	1.00		
H	- .15		1.00	
Problems	- .39	- .31	.13	1.00

(continued...)

TABLE 8. continued

49 4th-graders

	Billy	Johnny	Janet	A	H
Billy	1.00				
Johnny	.83	1.00			
Janet	.73	.68	1.00		
A	.06	.08	.14	1.00	
H	.09	.08	.24	.70	1.00

49 5th-graders

	Billy	Johnny	A
Billy	1.00		
Johnny	.71	1.00	
A	- .01	.21	1.00

50 9th-graders

	Billy	A	H
Billy	1.00		
A	.28	1.00	
H	.28	.79	1.00

(continued...)

TABLE 8. continued

28 4th-graders

	Johnny	Billy	A	H
Johnny	1.00			
Billy	.37	1.00		
A	.25	.42	1.00	
H	- .15	.17	.70	1.00

Hammond Study (3rd - 6th graders)

	Johnny	Billy	A	H
Johnny	1.00			
Billy	--	1.00		
A	.15	.15	1.00	
H	.05	.08	.29	1.00

TABLE 9. Comparison of Fireman Results and A-Scores and H-Scores from Good Ideas and Bad Ideas (Based on Hammond Study n=1788)

Animals Chosen on Johnny	A-Score	H-Score
0	75.0	7.11
1	74.9	5.74
2	75.9	7.67
3	78.3	7.97
F-Ratio (sig)	7.14 (.0001)	2.59 (.06)
Animals Chosen on Billy		
0	76.2	6.30
1	75.8	7.18
2	77.0	7.46
3	78.9	8.27
F-Ratio (sig)	9.59 (.0001)	2.45 (.07)

Table 10. Comparison of Fireman Results and Scores on the Problems Test. (m=52 3rd and 5th graders)

Animals Chosen on Johnny	Average Problems Ranking	
0	3.76	(m=41)
1	3.22	(m=37)
2	2.68	(m=34)
3	2.68	(m=40)
F-Ratio	3.77	
(Sig)	(.02)	

Animals Chosen on Billy	Average Problems Ranking	
0	3.60	(m=40)
1	3.08	(m=37)
2	3.46	(m=26)
3	2.43	(m=48)
F-Ratio	4.21	
(Sig)	(/007)	

TABLE 11. Comparison of A-Scores of those who Chose and Didn't Choose Specific Animals.

	A-Score of Those Who Didn't Choose the Animals	A-Score of Those Who Chose the Animals	F-Ratio	(Sig.)
Johnny's Dog	75.0	76.5	6.64	(.01)
Cat	75.0	77.4	15.29	(.0001)
Gerbil	75.1	77.7	14.76	(.0001)
Billy's Dog	75.9	77.9	16.22	(.0001)
Cat	76.1	78.0	15.27	(.0001)
Canary	76.5	78.3	13.92	(.0002)

TABLE 12. Comparison of H-Scores of those who Chose and Didn't Choose Specific Animals.

	H-Score of Those Who Didn't Choose the Animal	H-Score of Those Who Chose the Animal	F-Ratio	(Sig.)
Johnny's Dog	6.79	7.23	0.57	(.46)
Cat	6.76	7.55	1.65	(.20)
Gerbil	6.79	7.70	1.91	(.17)
Billy's Dog	6.64	7.80	3.89	(.05)
Cat	6.63	7.90	4.87	(.03)
Canary	6.84	8.22	5.81	(.02)

Table 13. Mean Rankings on Problems Test of those who saved specific animals on the Fireman Tests compared to those who did not save those animals. (Based on 152 3rd to 5th graders)*

	Johnny's Dog	Johnny's Cat	Johnny's Gerbil
Saved the Animal	2.75	2.74	2.91
Didn't Save It	3.64	3.39	3.20
F-Ratio	10.37	5.70	1.03
(Sig)	(.002)	(.02)	(.32)

	Billy's Dog	Billy's Kitten	Billy's Canary
Saved the Animal	2.90	2.81	2.47
Didn't Save It	3.34	3.48	3.41
F-Ratio	2.50	5.71	11.10
(Sig)	(.12)	(.02)	(.002)

Number of Alimals Saved	Johnny	Billy
0	3.76	3.60
1	3.22	3.08
2	2.68	3.46
3	2.68	2.43
F-Ratio	3.77	4.20
(Sig)	(.02)	(.007)

(*Note that a lower score indicates a more favorable attitude.)

Table 14. Mean rankings on Problems Test of those who saved spcific animals on Billy and the Fireman compared tothose who did not save those animals.

	Billy's Dog	Kitten	Canary
Saved the Animal	3.50	3.13	3.79
Didn't Save It	5.13	5.23	4.75
F	5.10	8.95	1.50
(Sig)	(.03)	(.005)	(.23)

Number of Animals Saved

0	5.21
1	4.22
2	6.33
3	2.73
F	3.74
(Sig)	(.02)

Table 15. Percentages of responses by grade level to Johnny and the Fireman (based on the Hammond Study).

	Overall (m=1243)	Grade 3 (m=405)	Grade 4 (m=446)	Grade 5 (m=64)	Grade 6 (m=292)
Number of Animals Chosen					
0	38.5%	41.5%	36.5%	37.5%	40.4%
1	25.7	27.7	26.2	23.4	22.6
2	15.5	15.6	14.1	18.8	14.7
3	20.2	15.3	23.1	20.3	22.3
Mean Number Chosen	1.17	1.05	1.24	1.22	1.89
Chose Johnny's Dog	56.4%	51.9%	58.7%	56.3%	56.2%
Cat	33.2	28.4	36.5	34.4	32.5
Gerbil	27.7	24.2	28.5	31.3	30.1

*Overall percentages include some second graders.

Table 16 Percentages of responses by grade level to Billy and the Fireman (based on the Hammond Study)

Animals Chosen	Overall (m=1415)	Grade 3 (m=361)	Grade 4 (m=300)	Grade 5 (m=376)	Grade 6 (m=329)
0	25.7%	23.5%	28.0%	22.3%	30.7%
1	21.0	23.5	23.7	18.4	16.1
2	20.0	24.9	19.0	18.4	16.7
3	33.4	28.0	29.3	41.0	36.5
Mean Number Chosen	1.61	1.57	1.50	1.78	1.59
Chose Billy's					
Dog	63.0%	60.1%	61.7%	67.3%	63.2%
Kitten	59.7	62.0	54.3	66.0	55.9
Canary	38.2	35.2	33.3	44.7	39.8

*Overall percentages include some second graders.

Table 17. Frequencies of Responses on A-Scale of Good Ideas and Bad Ideas. (Parentheses contain cumulative percentages of respondents below the upper limit of each interval) (Based on Hammond Study).

A-Scale Score	Overall	Grade 3	Grade 4	Grade 5	Grade 6
20-24	2(0.1)		2(0.3)		
25-29	1(0.1)		1 (0.4		
30-34	2 (0.2)		1 (0.5)		
35-39	2 (0.3)	1 (.05)	0 (0.5)		1 (0.2)
40-44	7 (.07)	1 (1.0)	3 (0.9)		2 (0.5)
45-49	13 (1.3)	2 (2.0)	4 (1.5)	4(.09)	3 (1.0)
50-54	25 (2.5	2 (3.0)	7 (2.4)	4 (1.8)	11 (2.8)
55-59	38 (4.4)	3 (4.5)	14 (4.3)	6 (3.2)	14 (5.2)
60-64	80 (6.6)	10 (9.5)	24 (7.6)	14 (6.4)	30 (10.2
65-69	121 (14.2)	22 (20.4)	31 (11.8)	23 (11.4)	40 (16.9)
70-74	459 (31.8)	19 (33.3)	136 (30.3)	76 (28.9)	113 (35.7)
75-79	563 (54.5)	56 (61.2)	172 (53.6)	81 (47.5)	141 (59.3)
80-84	723 (89.9)	65 (93.5)	169 (90.1)	178 (85.7)	194 (91.7)
85-89	207 (100)	13 (100)	73 (100)	63 (100)	50 (100)
Total n	2043	201	737	440	599
Mean	76.48	75.43	76.70	77.67	75.73
Mode	80	80	80	82	80
Median	78.12	77.69	78.25	79.72	77.68
S.D.	8.29	8.53	8.41	7.57	8.23
Rel.	.73	.69	.75	.71	.73

Table 18. Frequencies of occurrence of H-Scores from Good Ideas and Bad Ideas (Parentheses contain percentages of respondents below the upper limit of each interval) (Based on Hammond Study)

H-Scale	Overall	Grade 3	Grade 4	Grade 5	Grade 6
-20 to -16	11 (0.6)	1 (0.6)	4 (0.6)	3 (0.8)	3 (0.6)
-15 to -11	10 (1.2)	0 (0.6)	4 (1.2)	4 (1.9)	1 (0.8)
-10 to -6	79 (5.0)	10 (6.3)	25 (4.9)	8 (4.0)	19 (5.7)
- 5 to - 1	169 (14.5)	31 (18.4)	67 (14.8)	32 (12.5)	40 (12.8)
0 to 4	465 (40.6)	36 (39.1)	178(41.1)	87 (35.7)	140 (41.1)
5 to 9	484 (67.7)	54 (70.1)	178 (67.5)	117 (66.9)	118 (65.0
10 to 14	319 (85.5)	32 (88.5)	134 (87.3)	74 (86.7)	75 (80.2)
15 to 19	141 (93.4)	14 (96.6)	39 (93.0)	24 (93.1)	61 (92.5
20 to 24	61 (96.9)	3 (98.3)	25 (96.7)	14 (96.8)	18 (96.2)
25 to 29	26 (98.3)	2 (99.4)	10 (98.2)	5 (98.1)	9 (98.0)
30 to 34	18 (99.3)	1 (100)	9 (99.6)	1 (98.4	7 (99.4)
35 to 39	3 (99.5)		1 (99.7)	1 (99.9)	2 (99.8)
40 to 44	2 (99.8)		0		
45 to 49	3 (99.9)		2 (100)	1 (99.2)	
50 to 54	2 (99.9)			1(99.7)	
55 to 59	1 (99.9			1 (100)	1 (100)
60 to 64	1 (100)				
Total n	1788	174	676	375	496
Mean	6.94	2.78	6.79	7.43	7.63
Mode	8	3	2	8	4
Median	6.18	2.85	6.01	7.04	6.44
S.D.	8.51	0.76	8.32	8.91	8.86
Rel.	.43	.13	.36	.63	.45

Table 19. Comparison of mean A-Scale scores of those who chose animals on Johnny and those who did not choose animals. (Hammond Study).

Animals Chosen on Johnny	Overall (m=795)	Grade 3 (m=77)	Grade 4 (m=416)	Grade 5 (M=56)	Grade 6 (m=228)
0	75.0	75.0	75.2	75.0	74.5
1	74.9	75.2	75.6	78.7	73.9
2	75.9	75.5	76.9	75.1	76.9
3	78.3	78.3	78.7	78.0	77.6
F	7.14	0.46	4.14	0.80	2.58
(Sig	(.0001)	(.71)	(.007)	(.50)	(.06)
Saved Dog	76.5	75.9	77.4	77.1	76.0
Didn't	75.0	75.3	75.0	75.5	74.6
F	6.64	0.13	8.56	0.57	1.59
(Sig)	(.01)	(.73)	(.004)	(.46)	(.21)
Saved Cat	77.4	77.0	78.3	76.7	76.9
Didn't	75.0	74.9	75.2	76.2	74.7
F	15.29	1.34	13.49	0.05	3.65
(Sig)	(.001)	(.26)	(.0003)	(.82	(.06)
Saved Gerbil	77.7	77.0	77.5	77.9	77.9
Didn't	75.1	75.2	75.9	75.7	74.4
F	14.76	0.64	3.29	0.99	9.14
(Sig)	(.0001)	(.43)	(.07)	(.33)	(.003)

Table 20. Comparison of mean A-Scale scores for those who chose animals on Billy and those who did not choose animals. (Hammond Study)

	Overall (m=993)	Grade 3 (m=97)	Grade 4 (m=260)	Grade 5 (m=320)	Grade 6 (m=268)
Animals Chosen on Billy					
0	76.2	76.2	76.5	78.4	74.0
1	75.8	72.3	77.1	77.4	72.3
2	77.0	76.0	78.2	77.8	74.6
3	78.9	77.3	79.3	79.3	78.2
F	9.59	1.26	2.63	1.39	6.99
(Sig)	(.0001)	(.30)	(.06)	(.25)	(.0002)
Saved Dog	77.9	76.3	78.6	78.9	76.4
Didn't	75.9	74.6	76.6	77.5	73.5
F	16.22	0.85	5.57	2.92	7.70
(Sig)	(.0001)	(.36)	(.02)	(.09)	(.006)
Saved Cat	78.0	76.9	78.6	78.6	76.5
Didn't	76.1	73.7	76.9	78.3	73.8
F	15.27	2.97	4.19	0.13	7.33
(Sig)	(.0001)	(.09)	(.05)	(.72)	(.008)
Saved Gerbil	78.3	74.9	79.1	78.9	77.8
Didn't	76.5	76.1	77.1	78.1	73.7
F	13.92	0.46	5.02	1.18	16.32
(Sig)	(.0002)	(.50)	(.03)	(.28)	(.0001)

Table 21. Comparison of mean H-Scale scores those who chose animals on Johnny and those who did not choose animals.(Hammond Study)

	Overall (m=795)	Grade 3 (m=77)	Grade 4 (m=416)	Grade 5 (m=56)	Grade 6 (m=228)
Animals Chosen on Johnny					
0	7.11	7.35	6.96	6.94	7.42
1	5.74	5.18	5.34	6.26	7.37
2	7.67	4.21	7.69	9.03	9.70
3	7.97	8.92	6.23	10.57	10.73
F	2.59	0.86	1.42	0.76	2.02
(Sig)	(.06)	(.47)	(.24)	(.53)	(.12)
Saved Dog	7.23	5.81	6.44	9.40	9.32
Didn't	6.79	7.01	6.55	6.39	7.30
F	0.57	0.39	0.02	1.90	2.98
(Sig)	(.46)	(.54)	(.90)	(.18)	(.09)
Saved Cat	7.55	7.30	6.64	7.79	10.06
Didn't	6.76	6.02	6.39	8.23	7.68
F	1.65	0.39	0.10	0.03	3.65
(Sig)	(.20)	(.54)	(.76)	(.85)	(.06)
Saved Gerbil	7.70	5.89	5.95	11.40	10.49
Didn't	6.79	6.56	6.71	6.34	7.65
F	1.91	0.08	0.81	5.14	4.80
(Sig)	(.17)	(.79)	(.37	(.03	(.03)

Table 22. Comparisons of mean H-Scale scores of those who chose animals on Billy and those who did not choos animals. (Hammond Study)

	Overall (m=993)	Grade 3 (m=97)	Grade 4 (m=260)	Grade 5 (m=320)	Grade 6 (m=268)
Animals Chosen on Billy					
0	6.30	5.91	6.87	5.39	7.41
1	7.18	5.12	8.84	7.60	5.92
2	7.46	6.63	7.28	8.43	7.49
3	8.27	8.15	9.24	8.47	7.82
F	2.45	0.86	1.16	1.91	0.42
(Sig)	(.07)	(.47)	(.33)	(.13)	(.75)
Saved Dog	7.80	7.00	8.09	8.58	7.42
Didn't	6.64	5.83	8.23	5.64	7.18
F	3.89	0.70	0.02	7.41	0.04
(Sig)	(.05)	(.41)	(.91)	(.007)	(.85)
Saved Kitten	7.90	7.41	8.64	8.16	7.75
Didn't	6.63	5.23	7.50	6.59	6.79
F	4.87	2.50	1.06	2.14	0.70
(Sig)	(.03)	(.11)	(.31)	(.15)	(.41)
Saved Canary	8.22	7.20	9.90	8.32	7.49
Didn't	6.84	6.23	7.16	7.07	7.22
F	5.81	0.49	5.75	1.51	0.05
(Sig)	(.02)	(.49)	(.02)	(.22)	(.83)

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APPENDIX A

GRADE: 7 8 9 10 11 12

SEX: Male Female

SCHOOL: _____

Do you own a pet? YES NO

Please read each item carefully and then circle the response that is nearest your own level of concern.

THIS IS NOT A TEST

1. The use of animals in scientific experimentation is almost totally uncontrolled with little or no safeguards for the welfare of the animals involved.

   A. This deeply concerns me
   B. This concerns me very much
   C. This concerns me somewhat
   D. This does not concern me

2. Most states have anti-cruelty laws which provide guidelines for the protection and treatment of animals, however, most states specifically exempt research laboratories from these laws.

   A. This deeply concerns me
   B. This concerns me very much
   C. This concerns me somewhat
   D. This does not concern me

3. In the state of Oklahoma, dog pounds are required by law to give animals to scientific or educational institutions to be used in experiments.

   A. This deeply concerns me
   B. This concerns me very much
   C. This concerns me somewhat
   D. This does not concern me

4. More than 7,000 dogs and cats are born every hour in the United States and only a limited number of these ever find homes.

   A. This deeply concerns me
   B. This concerns me very much
   C. This concerns me somewhat
   D. This does not concern me

5. Over one million dogs and cats will be stolen this year in the United States, and a large number of these stolen animals will find their way to pet shops for re-sale or to laboratories for scientific experimentation.

   A. This deeply concerns me
   B. This concerns me very much
   C. This concerns me somewhat
   D. This does not concern me

6. Puppy mills are where large numbers of puppies are bred for sale in pet shops. Most puppy mill owners are not concerned with the health and welfare of the animals, and the puppies are often shipped in a cruel manner.

   A. This deeply concerns me
   B. This concerns me very much
   C. This concerns me somewhat
   D. This does not concern me

7. Animals given away as pets at special times of the year, such as Easter, are often given to people that do not know how to provide the animals with proper care and treatment.

   A. This deeply concerns me
   B. This concerns me very much
   C. This concerns me somewhat
   D. This does not concern me

8. The desire to have exotic animals as pets has contributed to the extinction of several species. Exotic animals do not make good pets and frequently must be destroyed or placed in zoos.

   A. This deeply concerns me
   B. This concerns me very much
   C. This concerns me somewhat
   D. This does not concern me

9. Once an exotic animal has been made a pet, it is extremely doubtful that the animal can successfully return to the wild. Therefore, many exotic pets have to be destroyed.

   A. This deeply concerns me
   B. This concerns me very much
   C. This concerns me somewhat
   D. This does not concern me

10. An endangered species is a species in immediate danger of extinction: continued survival is unlikely without the implementation of special protective measures. There are 79 mammals, 45 birds, 37 reptiles and 27 fish on the endangered species list.

    A. This deeply concerns me
    B. This concerns me very much
    C. This concerns me somewhat
    D. This does not concern me

16. Animals being transported by public carriers normally receive little care and are transported in the same manner as most baggage and freight.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

17. In the area of shipping and transporting of animals, few laws exist on the type of containers and care animals must receive while being transported. As a result, thousands of animals die each year of suffocation and starvation while being transported.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

18. Often in the making of a movie or television program an animal or several animals are treated cruelly to obtain a special effect.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

19. A bucking strap used in rodeos is a leather strap that is lined with fleece or barbed wire that is wrapped around the flanks of the horses or bulls to force them to buck. Even a tame horse will buck like a wild horse if a bucking strap is placed on him.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

20. Electrical prods are cylinders about the size of a five battery flashlight, that when placed against the hide of an animal deliver a strong electrical shock. They are used to make animals move into chutes and trucks, etc. Electrical prods are often used on rodeo stock.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

11. Whales are the largest mammals in the world. Due to the practices of the whaling industry, most species of whales are in danger of extinction.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

12. Furs for clothing have been in fashion for hundreds of years. However many of the animals used to make clothing have become extinct or are in danger of extinction.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

13. To obtain fur for seal coats, baby seals are clubbed to death.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

14. Animals kept in small confined areas will suffer physical and psychological damage.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

15. Small zoos that are found along the side of highways are called road side zoos. Animals in road side zoos are often kept in unclean cages, underfed, and suffer from numerous diseases.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

21. At a cockfight, the birds have steel gaffs that are at least three inches long and razor sharp tied to their legs. These gaffs are used by the cocks in the fight to injure each other.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

22. When an animal is shot and not killed, the animal frequently roams for days, and thus suffers a slow, painful death.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

23. Hunters using firearms are free to select and use any weapon he or she desires without any formal instruction on the use of the weapon.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

24. Ducks, geese and swans use small pebbles to help grind food in their gizzards. They are, however, unable to discriminate between pebbles and lead shotgun pellets. Each year two to three million ducks, geese, and swans are killed as a result of eating lead shotgun pellets.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

25. Feral dogs are a great concern to farmers, ranchers, and people living in cities. A feral dog is a homeless unwanted dog that has become wild. Feral dogs often run in packs and are primarily responsible for livestock losses.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

26. For years farmers and ranchers have blamed coyotes for livestock losses, however, scientific research shows that coyotes are <u>not</u> responsible for most livestock losses. The hunting and killing of coyotes continues even though evidence shows coyotes are helpful in maintaining the balance of nature.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

27. Cyanide is a common poison used in predator control and is currently legal in all states. Poisons such as cyanide often set off a chain of killings of other animals that are helpful to man and his future.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

28. One of the oldest methods of predator control was to pay a bounty for a body or hide of a dead animal. The system of paying bounties to control predators is still being conducted at taxpayer expense.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

29. A steel jaw trap is a trap that catches an animal by the paw or leg and thereby causes great pain and sometimes even death to the entangled animal.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

30. An animal caught in a steel jaw trap will often chew his own [illegible] off to escape.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

31. The use of animals in scientific experimentation is almost totally uncontrolled with little or no safeguards for the welfare of the animals involved. In the state of Oklahoma, dog pounds are required by law to give animals to scientific or educational institutions to be used in experiments.

A. This deeply concerns me
B. This concerns me very much
C. This concerns me somewhat
D. This does not concern me

Appendix B

Johnny and the Fireman

Johnny is a boy about your age. One night his house catches fire. He and all the members of his family escape in time, but they have time to bring nothing with them. A fireman comes up to Johnny and says, "The house is going to be a total loss. Is there anything you would like us to try to get out of the house before it burns down?"

Here is a list of some of the things in the house. Choose the three things that Johnny should tell the fireman to try to save if there is time. Then explain the reasons for your choice.

Color portable TV (Brand new; cost $450)
Father's wallet ($75 and credit cards)
Johnny's dog (1 year old; cost $30)
Johnny's stamp collection (worth $75)
His sister's cat (She got it for free a year ago)
Dad's car keys (Car is safely parked on the street)
Mother's expensive coat (worth $300)
CB radio (worth $210)
Little brother's pet gerbil
Dad's checkbook

What is the first thing to save?_____

What is the second thing to save?_____

What is the third thing to save?_____

Give reasons for your choices:

CHOICE #1

CHOICE #2

CHOICE #3

Billy and the Fireman

Billy is a boy about your age. One night his house catches fire. He and all the members of his family escape in time, but they have time to bring nothing with them. A fireman comes up to Billy and says, "The house is going to be a total loss. Is there anything you would like us to try to get out of the house before it burns down?"

Here is a list of some of the things in the house. Choose the three things that Billy should tell the fireman to try to save if there is time. Then explain the reasons for your choice.

Stereo record player (Brand new, cost $400)
Billy's baby kitten (two weeks old. He got it for free)
The family dog (1 year old, cost $30)
Mother's purse ($100 and credit cards)
Billy's baseball card collection (worth $100)
Billy's bicycle (1 year old; cost $85)
Dad's car keys (car is safely parked on street)
Microwave oven (worth $450)
Little brother's pet canary
Dad's checkbook

What is the first thing to save:_____

What is the second thing to save?_____

What is the third thing to save?_____

Give reasons for your choices:

CHOICE #1

CHOICE #2

CHOICE #3

Appendix C

Good Ideas and Bad Ideas

Here are some descriptions of people and of the things they might want to do. Read each of the descriptions, and decide whether the things they might do are good ideas or bad ideas. This is not a test. We simply want to find out how people your age feel about these ideas.

Rosa and Maria

1. It's Rosa's birthday. Maria has been looking forward to going to a movie, but Rosa wants to go shopping at the store instead. What should Maria do?
   a. She should go shopping with Rosa, because it's her birthday.
   b. She should let Rosa go shopping, and she should go to the movie.
   c. She should try to persuade Rosa to go to the Movie.
   d. She should stop being friends with Rosa.

Eric

Eric was playing in the alley behind his house. He saw some other kids teasing a stray cat. The other kids had cornered the cat and were poking sticks at it. Eric went into his house and told his father what he had seen, and his father made the other kids stop teasing the cat.

2. What do you think of the idea of teasing the cat.
   a. It sounds like a good idea.
   b. It would be a good idea, as long as you didn't seriously hurt the cat.
   c. It sounds like a bad idea.
   d. It sounds like a terrible idea.

3. What should Eric have done when he saw the other kids teasing the cat?
   a. He should have joined them.
   b. He should have ignored them.
   c. He should have tried to persuade them to stop teasing the cat
   d. He should have tried to find a way to rescue the cat without telling his father.
   e. He should have told his father what the other kids were doing.

Wanda

Wanda finished her school work early one day. She knew that if she turned the work in too soon, the teacher might give her more work to do. So she sat in her seat and just read over what she had already finished.

4. What do you think of Wanda's decision not to let the teacher know she was finished?
   a. It was a great idea.
   b. It was a good idea.
   c. It was a bad idea.
   d. It was a terrible idea.

Bobby and his Friends:

It's a hot summer night, and there's not much to do. A bunch of Bobby's friends come over and tell him they're going out to throw rocks at the streetlights.

5. What do you think of this idea of throwing rocks at streetlights?
   a. It's a great idea.
   b. It's a good idea.
   c. It's a bad idea.
   d. It's a terrible idea.

6. Bobby thinks it's a bad idea to throw rocks at streetlights. What should he do?
   a. Go along with them anyway.
   b. Tell them he'd rather stay inside and watch TV
   c. Try to talk them out of throwing rocks at streetlights.
   d. Tell his parents, so that they can stop the kids from throwing rocks at streetlights.

Harold

Harold is walking home from school when he and his best friend ses a stray dog. His friend kicks the dog and tells Harold to kick it too.

7. What do you think of the idea of kicking a stray dog?
   a. It's a great idea
   b. It's a good idea.
   c. It's a bad idea.
   d. It's a terrible idea.

8. Harold doesn't want to kick the dog, but he doesn't want his friend to think he's a sissy. What should Harold do?
   a. Kick the dog.
   b. Throw a stick to scare the dog away.
   c. Not kick the dog or do anything else to bother the dog.
   d. Tell his friend to stop bothering the dog.

Eddie

While they are walking through a city park, the group of kids Eddie is with decide to play a few jokes by turning over picnic tables and garbage cans.

9. What do you think of the idea of turning over picnic tables and garbage cans?
   a. It's a great idea.
   b. It's a good idea.
   c. It's a bad idea.
   d. It's a terrible idea.

10. Eddie doesn't like the idea. What should he do?
   a. Go along with them and turn over a few tables.
   b. Stay with his friends, but not do any damage.
   c. Leave his friends.
   d. Try to talk the other kids out of turning over the tables and cans.
   e. Tell an adult what the other kids plan to do.

Nate and Chris

Nate is walking home with Chris, who is two years older than Nate. When they reach Nate's house, Nate's dog runs out to greet them. Chris kicks Nate's dog.

11. What do you think of Chris's idea of kicking Nate's dog?
    a. It was a great idea.
    b. It was a good idea.
    c. It was a bad idea.
    d. It was a terrible idea.

12. Nate is upset at Chris for kicing the dog, but Chris is one of his best friends. What should Nate do?
    a. He should join Chris in teasing the dog.
    b. He should ignore Chris.
    c. He should ask Chris to stop it, but do nothing if Chris keeps it up.
    d. He should ask Chris to stop it, and stop hanging around with Chris if he keeps it up.
    e. He should ask Chris to stop it and tell his parents if Chris doesn't stop.

Janet

Janet's friends decide to sneak into Mr. McGregor's orchard to get some apples. Mr. McGregor has plenty of apples, and the kids will only pick up the apples on the ground anyway. But Mr. McGregor always yells and screams and chases the kids if he sees them.

13. What do you think of the idea of sneaking into Mr. McGregor's orchard to get some apples.
    a. It's a great idea.
    b. It's a good idea.
    c. It's a bad idea.
    d. It's a terrible idea.

14. Janet thinks that it's wrong to take someone else's apples, even if they are just laying around on the ground. What should Janet do?
    a. She should probably go along with her friends.
    b. She should not go along with them. She should just wait somewhere else until her friends are finished.
    c. She should stop playing with these friends and find some better friends.
    d. She should try to persuade her friends to change their minds.

Betty

Betty is with a group of kids who decide to tie firecrackers to a cat, light a match to them, and watch the cat go crazy.

15. What do you think of this idea?
    a. It's a great idea.
    b. It's a good idea.
    c. It's a bad idea.
    d. It's a terrible idea.

16. Betty doesn't like the idea. What should she do?
    a. She should go along with the other kids
    b. She should watch, but she should not join in.
    c. She should leave.
    d. She should try to persuade the others to stop.
    e. She should find some adult who could stop the others from doing this.

Paula

Paula has a slingshot. Her friends think that it would be fun to shoot at birds instead of at the homemade target.

17. What do you think of this idea of shooting at birds?
    a. It's a great idea.
    b. It's a good idea.
    c. It's a bad idea.
    d. It's a terrible idea.

18. Paula doesn't like the idea of shooting at birds. What should she do?
    a. Join her friends and shoot at the birds anyway.
    b. Let them shoot at birds, but not shoot at birds herself.
    c. Leave and let her friends shoot at the birds.
    d. Take her slingshot into the house where nobody can use it to shoot at birds.

Appendix D

Problems

Here are some problems which some people have been having. They live in a city much like yours. Which of these problems are the most important? (In other words, which of the problems should the people be most upset about?)

Read the entire list of problems. Then put a "1" in front of the problem which you think is the most important. Then put a "2" in front of the problem which you think is the next most important. Keep doing this until you have put a "9" in front of the problem which you think is least important.

This is not a test. Just put down how you feel about the problems. Be sure to mark each of the problems with a number.

****

___The closest television station is far away, and it's hard to get a clear picture.

___People are often uncomfortable because of the weather.

___Traffic accidents kill people needlessly.

___The city hasn't had a good basketball or baseball team for a long time.

___Books are often not returned on time to the library.

___The streets are hard to drive on because of potholes.

___Animals suffer needlessly because people mistreat them.

___The playgrounds and picnic areas are in bad shape because people are careless or deliberately break things.

___The price of buying things is getting higher and higher.